PCT/SG 03/00217

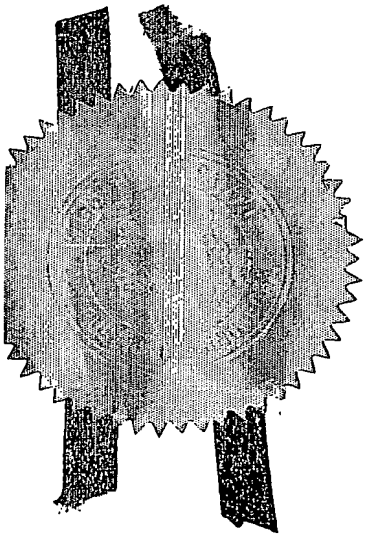
REC'D 23 SEP 2003
WIPO PCT

REGISTRY OF PATENTS
SINGAPORE

This is to certify that the annexed is a true copy of the following Singapore patent application as filed in this Registry.

Date of Filing	:	21 October 2002 (21-10-2002)
Application number	:	200206389-9
Applicant(s)	:	WIRELESS INTELLECT LABS PTE LTD
Title of Invention	:	DATA ACQUISITION SOURCE MANAGEMENT METHOD AND SYSTEM

BEST AVAILABLE COPY



Tan Kar Leng (Miss)
Assistant Registrar
for Registrar of Patents
Singapore

15 September 2003

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED
BUT NOT IN COMPLIANCE WITH
RULE 17.1(a) OR (b)

PATENTS FORM 1
Patents Act
(Cap. 221)
Patents Rules
Rule 19

INTELLECTUAL PROPERTY OFFICE OF SINGAPORE

101101

REQUEST FOR THE GRANT OF A PATENT UNDER SECTION 25

* denotes mandatory fields

1. YOUR REFERENCE* WIL-P001SG

2. TITLE OF INVENTION* Data Acquisition Source Management Method And System

3. DETAILS OF APPLICANT(S)* (see note 3) Number of applicant(s) 1

(A) Name: Wireless Intellect Labs Pte Ltd

Address: 9 International Business Park, #02-05
Singapore 609915

State: Country: SG

[X] For corporate applicant [ ] For individual applicant

State of incorporation: State of residency:

Country of incorporation: SG Country of residency:

[ ] For others (please specify in the box provided below)

(B) Name:

Address:

State: Country:

ACTION

200206389-9

OCT 2002

☐ For corporate applicant ☐ For individual applicant

State of incorporation | State of residency

Country of incorporation | Country of residency

☐ For others (please specify in the box provided below)

(C) Name

Address

State | Country

☐ For corporate applicant ☐ For individual applicant

State of incorporation | State of residency

Country of incorporation | Country of residency

☐ For others (please specify in the box provided below)

☐ Further applicants are to be indicated on continuation sheet 1

4. DECLARATION OF PRIORITY (see note 5)

A. Country/country designated

File number | Filing Date DD MM YYYY

B. Country/country designated

File number | Filing Date DD MM YYYY

☐ Further details are to be indicated on continuation sheet 6

5. INVENTOR(S)* (see note 6)

A. The applicant(s) is/are the sole/joint inventor(s) Yes ☐ No ☒

200206389-9

B. A statement on Patents F[redacted]8 is/will be furnished Yes [X] No [ ]

6. CLAIMING AN EARLIER FILING DATE UNDER (see note 7)

[ ] section 20(3) [ ] section 26(6) [ ] section 47(4)

Patent application number [ ]

DD MM YYYY

Filing Date [ ]

Please mark with a cross in the relevant checkbox provided below
(Note: Only one checkbox may be crossed.)

[ ] Proceedings under rule 27(1)(a)

DD MM YYYY

Date on which the earlier application was amended [ ]

[ ] Proceedings under rule 27(1)(b)

7. SECTION 14(4)(C) REQUIREMENTS (see note 8)

Invention has been displayed at an international exhibition. Yes [ ] No [X]

8. SECTION 114 REQUIREMENTS (see note 9)

The invention relates to and/or used a micro-organism deposited for the purposes of disclosure in accordance with section 114 with a depository authority under the Budapest Treaty.

Yes [ ] No [X]

9. CHECKLIST*

(A) The application consists of the following number of sheets

i.	Request	5	Sheets
ii.	Description	9	Sheets
iii.	Claim(s)	5	Sheets
iv.	Drawing(s)	6	Sheets
v.	Abstract (Note: The figure of the drawing, if any, should accompany the abstract)	1	Sheets
Total number of sheets		26	Sheets

(B) The application as filed is accompanied by:

[ ] Priority document(s) [ ] Translation of priority document(s)

200206389-9

21 OCT 2002

X	Statement of inventorship & right to grant		International exhibition cer

10. DETAILS OF AGENT (see notes 10, 11 and 12)

Name: Foo, Moo Kwang

Firm: Axis Intellectual Capital Pte Ltd

11. ADDRESS FOR SERVICE IN SINGAPORE* (see note 10)

Block/Hse No.: 19 Level No.: Unit No./PO Box: B

Street Name: Duxton Hill

Building Name:

Postal Code: 089602

12. NAME, SIGNATURE AND DECLARATION (WHERE APPROPRIATE) OF APPLICANT OR AGENT* (see note 12)
(Note: Please cross the box below where appropriate.)

X I, the undersigned, do hereby declare that I have been duly authorised to act as representative, for the purposes of this application, on behalf of the applicant(s) named in paragraph 3 herein.

Foo Moo Kwang
Name and Signature

DD MM YYYY
21 OCT 2002

200206389-9
21 OCT 2002

NOTES:

1. This form when comple[illegible]hould be brought or sent to the Registry of Patents [illegible]gether with the rest of the application. Please note that the filing fee should be furnished within the period prescribed.

2. The relevant checkboxes as indicated in bold should be marked with a cross where applicable.

3. Enter the name and address of each applicant in the spaces provided in paragraph 3.
   Where the applicant is an individual
   - Names of individuals should be indicated in full and the surname or family name should be underlined.
   -The address of each individual should also be furnished in the space provided.
   - The checkbox for "For individual applicant" should be marked with a cross.

   Where the applicant is a body corporate
   - Bodies corporate should be designated by their corporate name and country of incorporation and, where appropriate, the state of incorporation within that country should be entered where provided.
   - The address of the body corporate should also be furnished in the space provided.
   - The checkbox for "For corporate applicant" should be marked with a cross.

   Where the applicant is a partnership
   - The details of all partners must be provided. The name of each partner should be indicated in full and the surname or family name should be underlined.
   - The address of each partner should also be furnished in the space provided.
   - The checkbox for "For others" should be marked with a cross and the name and address of the partnership should be indicated in the box provided.

4. In the field for "Country", please refer to the standard list of country codes made available by the Registry of Patents and enter the country code corresponding to the country in question.

5. The declaration of priority in paragraph 4 should state the date of the previous filing, the country in which it was made, and indicate the file number, if available. Where the application relied upon in an International Application or a regional patent application e.g. European patent application, one of the countries designated in that application [being one falling under section 17 of the Patents Act] should be identified and the country should be entered in the space provided.

6. Where the applicant or applicants is/are the sole inventor or the joint inventors, paragraph 5 should be completed by marking with a cross the 'YES' checkbox in the declaration (A) and the 'NO' checkbox in the alternative statement (B). Where this is not the case, the 'NO' checkbox in declaration (A) should be marked with a cross and a statement will be required to be filed on Patents Form 8.

7. When an application is made by virtue of section 20(3), 26(6) or 47(4), the appropriate section should be identified in paragraph 6 and the number of the earlier application or any patent granted thereon identified. Applicants proceeding under section 26(6) should identify which provision in rule 27 they are proceeding under. If the applicants are proceeding under rule 27(1)(a), they should also indicate the date on which the earlier application was amended.

8. Where the applicant wishes an earlier disclosure of the invention by him at an International Exhibition to be disregarded in accordance with section 14(4)(c), then the 'YES' checkbox at paragraph 7 should be marked with a cross. Otherwise, the 'NO' checkbox should be marked with a cross.

9. Where in disclosing the invention the application refers to one or more micro-organisms deposited with a depository authority under the Budapest Treaty, then the 'YES' checkbox at paragraph 8 should be marked with a cross. Otherwise, the 'NO' checkbox should be marked with a cross. Attention is also drawn to the Fourth Schedule of the Patents Rules.

10. Where an agent is appointed, the fields for "DETAILS OF AGENT" and "ADDRESS FOR SERVICE IN SINGAPORE" should be completed and they should be the same as those found in the corresponding Patents Form 41. In the event where no agent is appointed; the field for "ADDRESS FOR SERVICE IN SINGAPORE" should be completed, leaving the field for "DETAILS OF AGENT" blank.

11. In the event where an individual is appointed as an agent, the sub-field "Name" under "DETAILS OF AGENT" must be completed by entering the full name of the individual. The sub-field "Firm" may be left blank. In the event where a partnership/body corporate is appointed as an agent, the sub-field "Firm" under "DETAILS OF AGENT" must be completed by entering the name of the partnership/body corporate. The sub-field "Name" may be left blank.

12. Attention is drawn to sections 104 and 105 of the Patents Act, rules 90 and 105 of the Patents Rules, and the Patents (Patent Agents) Rules 2001.

13. Applicants resident in Singapore are reminded that if the Registry of Patents considers that an application contains information the publication of which might be prejudicial to the defence of Singapore or the safety of the public, it may prohibit or restrict its publication or communication. Any person resident in Singapore and wishing to apply for patent protection in other countries must first obtain permission from the Singapore Registry of Patents unless they have already applied for a patent for the same invention in Singapore. In the latter case, no application should be made overseas until at least 2 months after the application has been filed in Singapore, and unless no directions had been issued under section 33 by the Registrar or such directions have been revoked. Attention is drawn to sections 33 and 34 of the Patents Act.

14. If the space provided in the patents form is not enough, the additional information should be entered in the relevant continuation sheet. Please note that the continuation sheets need not be filed with the Registry of Patents if they are not used.

200206389-9

DATA ACQUISITION SOURCE MANAGEMENT METHOD AND SYSTEM

Field Of Invention

The invention relates to a data acquisition source management method. Specifically, the invention relates to a data acquisition source management method for implementing a data acquisition source management system for providing centralized management of multimedia data acquisition sources and distribution of the multimedia data captured in real-time from the acquisition sources over various channels and bearers including cellular MMS (Multimedia Messaging Service) and the Internet is disclosed.

Background

Real-time multimedia data on demand systems, such as Internet-based real-time multimedia data on demand systems, are basically image or audio acquisition sources that are connected to a computer that is connected directly via an Internet connection to a server with the server having capabilities to distribute the multimedia data acquired by the acquisition source over the Internet.

Conventionally, distribution of acquired multimedia data from the acquisition source in the real-time multimedia data on demand systems is accomplished with a permanent FTP (File Transfer Protocol) or the like dedicated connection to a server. The acquisition source continuously transmits acquired data via the FTP connection for storage on a server. When a request for data is received, the data stored on the server is distributed to the source of the request.

One drawback of the abovementioned method is that it requires intensive bandwidth utilization as the acquisition sources are continuously sending data to the server to be stored. Furthermore, there is no guarantee that the data retrieved by a request is in real-time as the status of the acquisition source is not continuously monitored. Special software is also required in the setup used by conventional systems for the acquisition source to retrieve and transmit data. Furthermore, the implementation of such systems are often complex, and technical knowledge and proficiency in networking protocol

are requirements as setup of the connection to the server can be complicated, and often beyond the capabilities and/or knowledge and/or patience of the average Internet user.

Hence, this clearly affirms a need for a data acquisition source management method and system for addressing the foregoing disadvantages of conventional real-time multimedia data on demand systems.

Summary

The present invention is directed to a system and method for the centralized management of data acquisition sources and the distribution of acquired real-time multimedia data. In an embodiment of the invention, a method is provided using a client server model for multiple acquisition sources to function independently under the control of a central server.

The invention relates to a data acquisition source management method. Specifically, the invention relates to a data acquisition source management method for implementing a data acquisition source management system for providing centralized management of multimedia data acquisition sources and distribution of the multimedia data captured in real-time from the acquisition sources over various channels and bearers including cellular MMS (Multimedia Messaging Service) and the Internet is disclosed. Data acquisition sources, independent of having fixed-line or wireless connectivity to the Internet or an alternative Internet protocols-enabled network, are registered with a central server for the server to monitor the status of the acquisition sources with minimal setup and configuration and to further allow request for real-time data directly from any registered acquisition sources with significantly reduced utilization of available bandwidth.

Therefore, in accordance with a first aspect of the invention, there is disclosed a data acquisition source management method for managing acquisition sources, the data acquisition source management method comprising the steps of:

generating a source list for containing at least one acquisition source by a Real-time Multimedia Data On Demand (RTMDOD) server, each of the at least one acquisition source contained in the source list being for provision of data therefrom and being in data communication with the RTMDOD server;

providing the source list to a data requestor system, the source list being provided by the RTMDOD server in response to the RTMDOD server receiving a list request from the data requestor system, the data requestor system being in data communication with the RTMDOD server; and

receiving a data request from the data requestor system by the RTMDOD server, the data request being a request for data from one or more of the at least one acquisition source being registered on the source list and being indicated thereby.

In accordance with a second aspect of the invention, there is disclosed a data acquisition source management system for managing acquisition sources, the data acquisition source management system comprising:

the means for generating a source list for containing at least one acquisition source by a Real-time Multimedia Data On Demand (RTMDOD) server, each of the at least one acquisition source contained in the source list being for provision of data therefrom and being in data communication with the RTMDOD server;

the means for providing the source list to a data requestor system, the source list being provided by the RTMDOD server in response to the RTMDOD server receiving a list request from the data requestor system, the data requestor system being in data communication with the RTMDOD server; and

the means for receiving a data request from the data requestor system by the RTMDOD server, the data request being a request for data from one or more of the at least one acquisition source being registered on the source list and being indicated thereby.

Brief Description Of The Drawings

Embodiments of the invention are described hereinafter with reference to the following drawings, in which:

FIG. 1 shows a process flow diagram of a data acquisition source management method according to an embodiment of the invention;

FIG. 2 shows a first system layout diagram of a data acquisition source management system for implementing the data acquisition source management method of FIG. 1;

FIG. 3 shows a process flow diagram of generating a source list in a step of the data acquisition source management method of FIG. 1;

FIG. 4 shows a process flow diagram of disseminating the source list in a step of the data acquisition source management method of FIG. 1;

FIG. 5 shows a system representation diagram of a Real-time Multimedia Data On Demand (RTMDOD) server of the data acquisition source management system of FIG. 2; and

FIG. 6 shows a second system layout diagram of the acquisition management system of FIG. 2.

Detailed Description

A data acquisition source management method for addressing the foregoing problems is described hereinafter.

According to an embodiment of the invention, a data acquisition source management system 20, as shown in FIG. 2, for implementing a data acquisition source management method 100 is described with reference to FIG. 1. FIG. 1 shows a process flow diagram of the data acquisition source management method 100, and FIG. 2 shows a first system layout diagram of the data acquisition source management system 20.

With reference to FIG. 2, the data acquisition source management system 20 comprises of a Real-time Multimedia Data On Demand (RTMDOD) server system 22,

a plurality of data requestor systems 24 (also known as a data requestor) and a plurality of acquisition sources 26. The RTMDOD, the plurality of data requestor systems 24 and the plurality of acquisition sources 26 are interconnected over a network system 21. The network system 21 may be the Internet, an Intranet, a cellular Multimedia Messaging Service system, or the like communication infrastructures.

The architecture of the RTMDOD system 22 follows the client/server model, where multiple clients function independently under the control of a central server with the data requestors 24 and the acquisition sources 26 being the clients and the RTMDOD system 22 being the central server.

The acquisition sources 26 are wherefrom data originates. Software programs are customized for interfacing the hardware of the acquisition sources 26 and the RTMDOD server 22.

The data acquisition source management method 100 is for managing the acquisition sources 26. In the data acquisition source management method 100, the RTMDOD server 22 generates a source list (not shown) containing the quantity of acquisition sources available 26 in a step 102 as shown in FIG. 1. The quantity of acquisition sources available can be zero, one or more. The acquisition sources 26 contained in the source list are for provision of data therefrom. The acquisition sources 26 are in data communication with the RTMDOD server 22.

The source list is then provided to a data requestor 24 in a step 104, in response to the RTMDOD server receiving a list request from the data requestor 24. The data requestor 24 is in data communication with the RTMDOD server 22. Once the source list has been disseminated to the data requestor 24, the RTMDOD server 22 is able to receive a data request from the data requestor 24 in a step 106 of FIG. 1. The data request (not shown) is a request for data from one or more acquisition sources available 26 that has been registered on the source list.

In response to the data request being received by the RTMDOD server 22 in the step 106, the RTMDOD server 22 proceeds to provide a data response to the data requestor 24 in a step 108 as explained hereinafter. The data request may be initiated independently by the data requestor 24 or may be initiated by an external stimulus, for example, a mobile phone generated SMS from a user, the receipt of an email from a user or the like event-based activations.

In the step 102, the source list is generated and updated when one or more acquisition sources register with the RTMDOD server 22. Registration is initiated upon starting-up of each acquisition source 26. In the step 102, registration data (not shown) is transmitted from the acquisition source 26 to the RTMDOD server 22 in a step 120 of FIG. 3, which shows a process flow diagram of generating a source list. The registration data is then verified by the RTMDOD server in a step 122 of FIG. 3. Once the registration data has been verified in the step 122, the acquisition source 26 is finally registered onto the source list, in a step 124, with the registration data corresponding to the acquisition source 26 being stored onto a source database (not shown).

FIG. 4 shows a process flow diagram of disseminating the source list in the step 104 of FIG. 1. In the step 104, log-in data is first transmitted from the data requestor 24 to the RTMDOD server 22 in a step 130 of FIG. 4. With reference to FIG. 4, the log-in data is provided for logging the data requestor 24 into the RTMDOD server 22. In response to the log-in data being received in the step 130, the data requestor is registered onto a requestor list (not shown) in a step 132. The requestor list contains at least one data requestor 24. Once the data requestor has been registered or logged onto the RTMDOD server 22, the source list is transmitted from the RTMDOD server 22 to the corresponding data requestor 24 in a step 134.

However, one or more of the acquisition source 26 may be deactivated after a period of time. Therefore, the status of each acquisition source 26 in the source list has to be constantly checked. The status of each acquisition source 26 is one of active or inactive. Further in the step 104, the status of each of the acquisition source 26 is

verified periodically in a step 140. Alternatively, the status of each of the acquisition sources 26 is further verified by requiring that the corresponding acquisition source 26 periodically send a status signal to the RTMDOD server 22.

The periodic verification step, as aforementioned, is akin to a heartbeat for pulsing status request signals from the RTMDOD server 22 to the acquisition source 26 or vice versa (not shown). If a status signaling is used and in such a case if a status signal is not received from the acquisition source 26 within a predetermined time interval, the status of the corresponding acquisition source 26 is updated as being inactive and the corresponding acquisition source 26 is then removed from the source list in a step 142, thereby updating the source list. Upon updating of the source list in the step 142, the source list is retransmitted to all the data requestor 24 that are logged onto the RTMDOD server 22, and registered on the requester list, in a step 144. The status verification of the acquisition source 26 is preferred in situations where a dynamically assigned IP is used by the acquisition source 26.

Following the data request from the data requestor 24 in the step 106, the RTMDOD server 22 proceeds to prepare and transmit a data response as aforementioned in the step 108 of FIG. 1. In the step 108, the data requested is transmitted from the RTMDOD server 22 to the data requestor 24. But before this takes place, a request is sent to the corresponding acquisition source 26 to acquire the data (not shown). The data received by the RTMDOD server 22 from the corresponding acquisition source 26 is then transmitted to the data requestor 24 in real-time, with the data being multimedia data. Alternatively, an error message is sent as the data response when an error occurs before or during transmission of the data.

The handling of the data request and data response by the RTMDOD server 22 is preferably serialized. Once one data request has been sent, the RTMDOD server 22 will not try to send another data request before a data response is received for the previous data request. This is to prevent the RTMDOD server 22 from overloading the acquisition source 26 which may have limited networking and computing capabilities.

However, the RTMDOD server 22 is capable of serving multiple data requests from the data requestors 24 to multiple acquisition sources 26 simultaneously.

Once the data corresponding to the data request has been completely received by the data requestor 24, the data requestor 24 can proceed to log-out from the RTMDOD server 22. Once a log-out instruction has been received from the data requestor 24, the RTMDOD server 22 proceeds to remove the corresponding data requestor 24 from the requester list. This reduces the quantity of data requestor 24 that has to be updated by the RTMDOD server 22 whenever the source list is updated.

Preferably, the RTMDOD server 22 comprises of four sub-systems: a verification sub-system 30, the data-pull sub-system 32, the data dispatch sub-system 34 and the data source management sub-system 36. The four sub-systems are shown in FIG. 5, which shows a system representation diagram of the RTMDOD server 22. The verification sub-system 30 is for verifying and updating the status of the acquisition source 26 contained in the source list. The data-pull sub-system 32 is for managing the retrieval of data from the acquisition source 26 upon receiving the data request from the data requestor 24. The data dispatch sub-system 34 is for managing communications with and data transmission to the data requestor 24. The data source management system 36 is for managing and updating the source list and the requestor list.

The data acquisition source management system 20 improves upon current real-time multimedia data on demand systems as it enables the acquisition source 26, for example video 26a, audio 26b (as shown in FIG. 6) or any other media types, to connect and register with the RTMDOD server 22 regardless of connection type and the presence of security devices like firewalls. Preferably, the acquisition source 26 uses only existing device drivers, for example a digital camera using its TWAIN driver instead of requiring special acquisition software, thereby making the data acquisition source management system 20 device independent and significantly reducing installation and configuration complexity.

Compared to conventional systems, only minimal bandwidth is required as the data acquisition source management method 100 does not require the acquisition sources to continuously transmit data to the RTMDOD server 22 for storage therein. Request and transmission of data will only occur when a request is made from a data requestor, thereby substantially reducing bandwidth usage.

In the foregoing manner, a data acquisition source management method for implementing a data acquisition source management system is described according to an embodiment of the invention for addressing the foregoing disadvantages of conventional acquisition source management system. It will be apparent to one skilled in the art in view of this disclosure that numerous changes and/or modification can be made without departing from the scope and spirit of the invention.

Claims

1. A data acquisition source management method for managing acquisition sources, the data acquisition source management method comprising the steps of:

generating a source list for containing at least one acquisition source by a Real-time Multimedia Data On Demand (RTMDOD) server, each of the at least one acquisition source contained in the source list being for provision of data therefrom and being in data communication with the RTMDOD server;

providing the source list to a data requestor system, the source list being provided by the RTMDOD server in response to the RTMDOD server receiving a list request from the data requestor system, the data requestor system being in data communication with the RTMDOD server; and

receiving a data request from the data requestor system by the RTMDOD server, the data request being a request for data from one or more of the at least one acquisition source being registered on the source list and being indicated thereby.

2. The data acquisition source management method as in claim 1, further comprising a step of:

providing a data response from the RTMDOD server to the data requestor system in responses to the data request being received by the RTMDOD server from the data requestor system.

3. The data acquisition source management method as in claim 1, the step of generating a source list containing at least one acquisition source comprising the steps of:

transmitting registration data from the at least one acquisition source to the RTMDOD server;

verifying the registration data from the at least one acquisition source by the RTMDOD server; and

registering the at least one acquisition source onto the source list and storing the registration data corresponding to the registered at least one

acquisition source onto a source database in response to the registration data being verified.

4. The data acquisition source management method as in claim 1, the step of providing a source list to the data requestor system comprising the steps of:

transmitting log-in data from the data requestor system to the RTMDOD server;

registering the data requestor system onto a requestor list in response to receiving the log-in data therefrom, the requestor list containing at least one of a plurality of data requestor systems; and

transmitting the source list to each of the plurality of data requestor system registered on the requestor list.

5. The data acquisition source management method as in claim 2, the step of providing a data response from the RTMDOD server to the data requestor system comprising a step of:

transmitting data from the RTMDOD server to the data requestor system, the data being provided by one or more of the at least one acquisition source indicated by and in response to the data request.

6. The data acquisition source management method as in claim 5, wherein the data transmitted from the corresponding at least one acquisition source to the RTMDOD server is subsequently received by the data requestor system in real-time therefrom.

7. The data acquisition source management method as in claim 5, the data received by the RTMDOD server from the corresponding at least one acquisition source being multimedia data.

8. The data acquisition source management method as in claim 2, further comprising a step of:

providing an error message to the data requestor system by the RTMDOD server in response to the data request.

9. The data acquisition source management method as in claim 4, the step of providing a source list to the data requestor system further comprising the steps of:

verifying status of each of the acquisition source registered on the source list, the status of each of the acquisition source being one of active or inactive;

updating the source list by removing the acquisition source having the status of inactive therefrom; and

transmitting the updated source list to each of the plurality of data requestor system registered on the requestor list.

10. A data acquisition source management system for managing acquisition sources, the data acquisition source management system comprising:

the means for generating a source list for containing at least one acquisition source by a Real-time Multimedia Data On Demand (RTMDOD) server, each of the at least one acquisition source contained in the source list being for provision of data therefrom and being in data communication with the RTMDOD server;

the means for providing the source list to a data requestor system, the source list being provided by the RTMDOD server in response to the RTMDOD server receiving a list request from the data requestor system, the data requestor system being in data communication with the RTMDOD server; and

the means for receiving a data request from the data requestor system by the RTMDOD server, the data request being a request for data from one or more of the at least one acquisition source being registered on the source list and being indicated thereby.

11. The data acquisition source management system as in claim 10, further comprising:

the means for providing a data response from the RTMDOD server to the data requestor system in responses to the data request being received by the RTMDOD server from the data requestor system.

12. The data acquisition source management system as in claim 10, wherein the means for generating a source list containing at least one acquisition source comprising:

the means for transmitting registration data from the at least one acquisition source to the RTMDOD server;

the means for verifying the registration data from the at least one acquisition source by the RTMDOD server; and

the means for registering the at least one acquisition source onto the source list and storing the registration data corresponding to the registered at least one acquisition source onto a source database in response to the registration data being verified.

13. The data acquisition source management system as in claim 10, wherein the means for providing a source list to the data requestor system comprising:

the means for transmitting log-in data from the data requestor system to the RTMDOD server;

the means for registering the data requestor system onto a requestor list in response to receiving the log-in data therefrom, the requestor list containing at least one of a plurality of data requestor systems; and

the means for transmitting the source list to each of the plurality of data requestor system registered on the requestor list.

14. The data acquisition source management system as in claim 11, wherein the means for providing a data response from the RTMDOD server to the data requestor system comprising:

the means for transmitting data from the RTMDOD server to the data requestor system, the data being provided by one or more of the at least one acquisition source indicated by and in response to the data request.

15. The data acquisition source management system as in claim 14, wherein the data transmitted from the corresponding at least one acquisition source to the RTMDOD server is subsequently received by the data requestor system in real-time therefrom.

16. The data acquisition source management system as in claim 14, wherein the data received by the RTMDOD server from the corresponding at least one acquisition source being multimedia data.

17. The data acquisition source management system as in claim 11, further comprising:

the means for providing an error message to the data requestor system by the RTMDOD server in response to the data request.

18. The data acquisition source management system as in claim 13, wherein the means for providing a source list to the data requestor system further comprising:

the means for verifying status of each of the acquisition source registered on the source list, the status of each of the acquisition source being one of active or inactive;

the means for updating the source list by removing the acquisition source having the status of inactive therefrom; and

the means for transmitting the updated source list to each of the plurality of data requestor system registered on the requestor list.

DATA ACQUISITION SOURCE MANAGEMENT METHOD AND SYSTEM

Abstract

A data acquisition source management system for providing centralized management of multimedia acquisition sources and distribution of multimedia data acquired in real-time from the sources over various channels and bearers including cellular Multimedia Messaging Service (MMS) and the Internet is disclosed according to an embodiment of the invention. The data acquisition source management system and method for implementing thereof, allows multimedia acquisition sources, independent of fixed-line or wireless connectivity to the Internet or an Internet protocols-enabled network, to register with a server as an acquisition source. This enables the server to monitor the acquisition source's availability with minimal setup and configuration. The server will distribute a list of available acquisition sources to users for the users to be able to request for real-time data to be captured by the acquisition sources for the data to be transmitted to the user, thereby facilitating optimal utilization of bandwidth.

FIG. 1

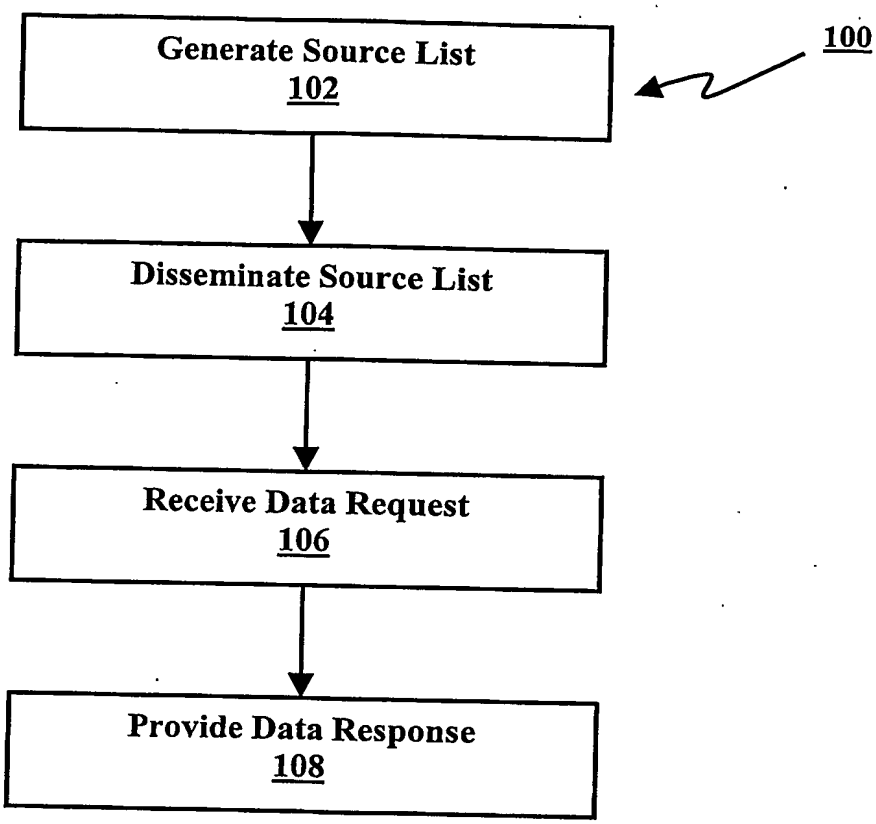

Generate Source List
102
100
Disseminate Source List
104
Receive Data Request
106
Provide Data Response
108

FIG. 1

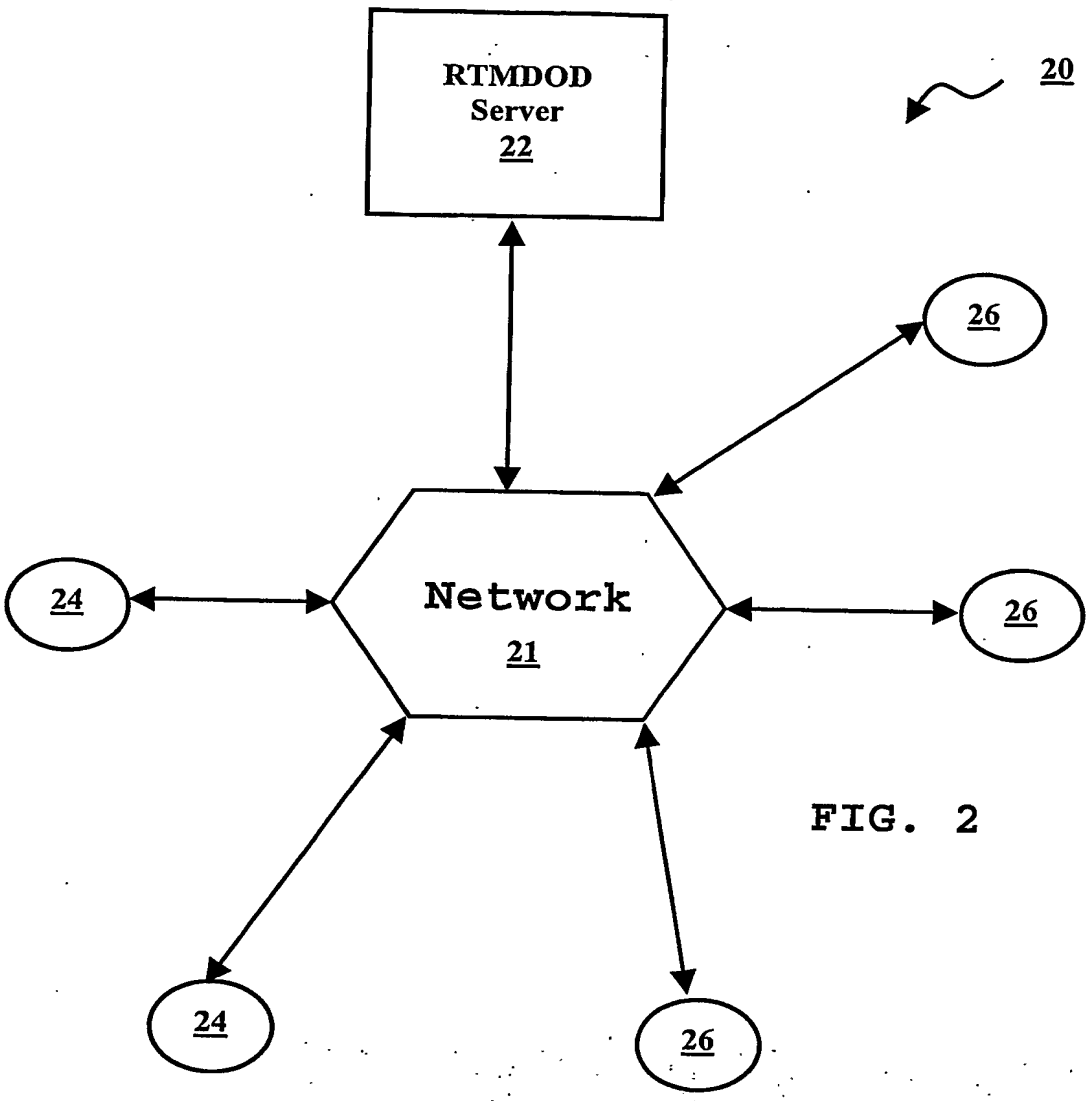


FIG. 2

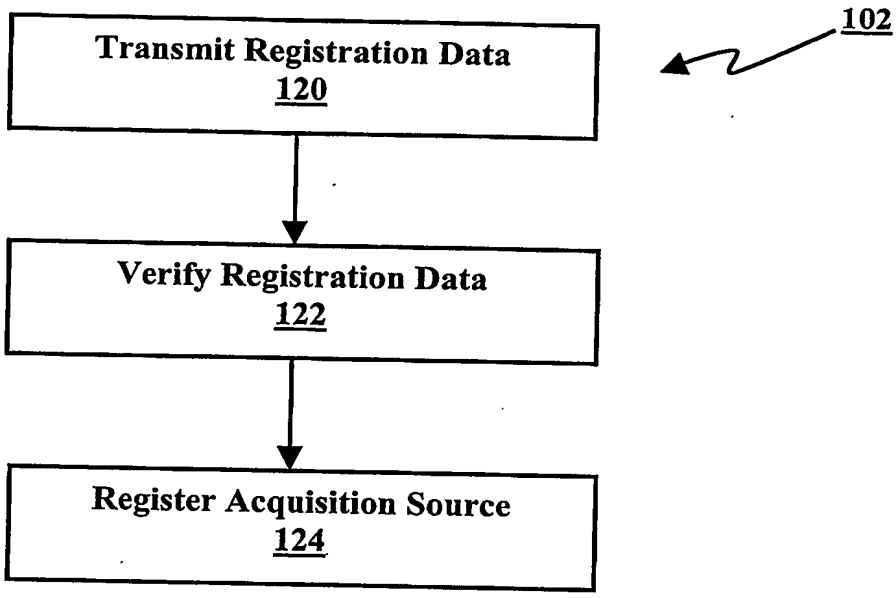

Transmit Registration Data
120
102
Verify Registration Data
122
Register Acquisition Source
124

FIG. 3

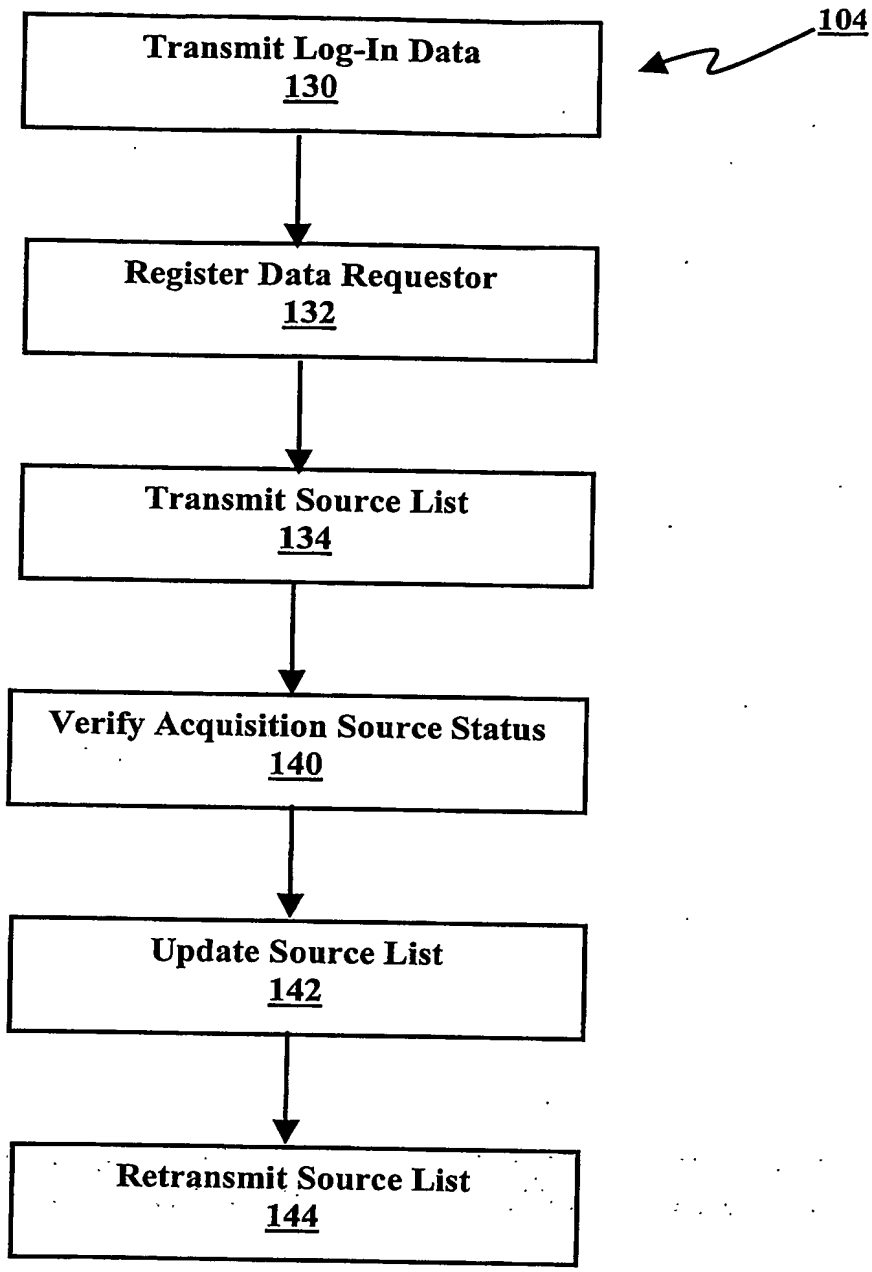

104
Transmit Log-In Data
130
Register Data Requestor
132
Transmit Source List
134
Verify Acquisition Source Status
140
Update Source List
142
Retransmit Source List
144

FIG. 4

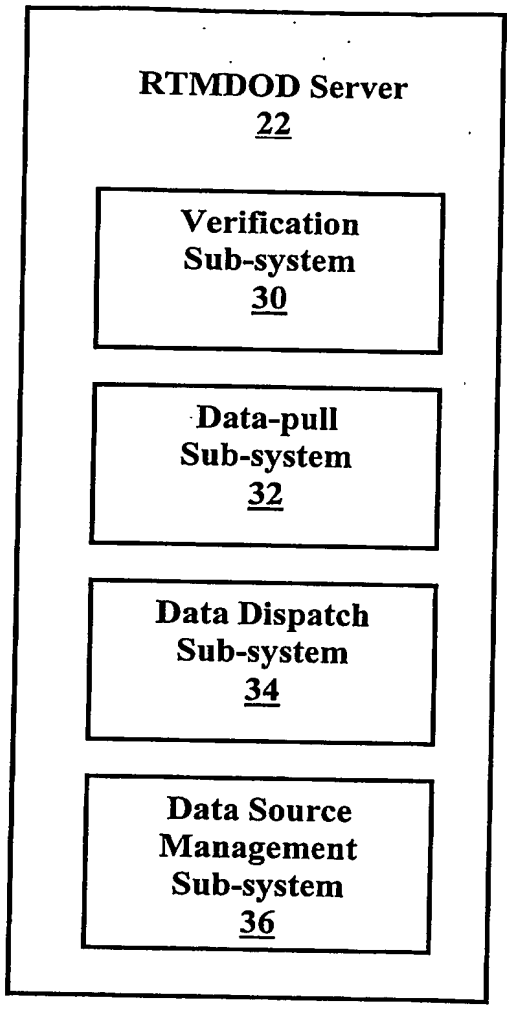

RTMDOD Server
22
Verification
Sub-system
30
Data-pull
Sub-system
32
Data Dispatch
Sub-system
34
Data Source
Management
Sub-system
36

FIG. 5

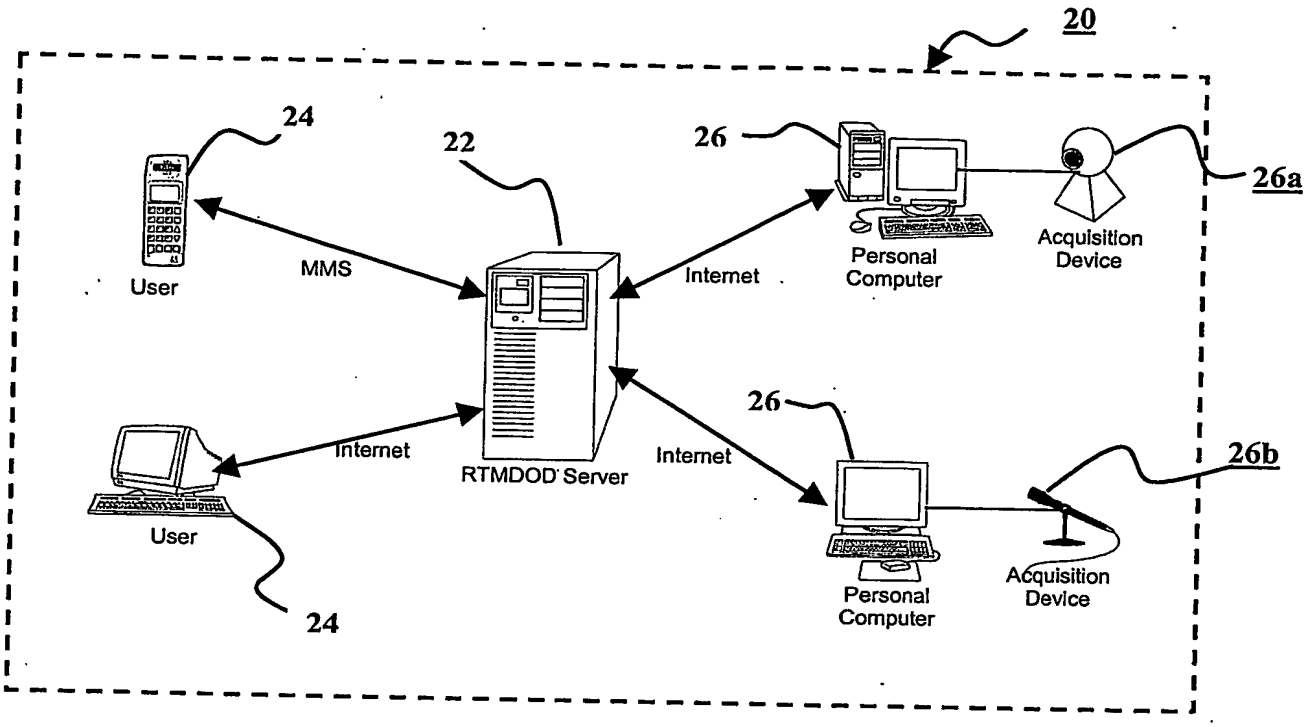

20
24
22
26
26a
User
MMS
Internet
Personal Computer
Acquisition Device
RTMDOD Server
Internet
Internet
26
26b
User
24
Personal Computer
Acquisition Device

FIG. 6

This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☑ BLACK BORDERS
- ☑ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☑ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☑ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.
As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.